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[028] As soon as one data processing program stored in the control and regulation device 16 as result, among others, of the measured rotational speed information, has determined that the transmission brake 1 is to be actuated in the sense of releasing or braking the control device 16, via a control line 17, gives a control signal in the form of a pulse width modulated voltage to a driver stage toroidal core control current source 18 with which the current supply to the coil 6, 7 can be regulated.

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1-16. (CANCELED)

17. (CURRENTLY AMENDED) A transmission brake (1), for braking a
transmission shaft (3), comprising:
an outer toothing (10) rotationally fixed to an end of the transmission shaft (3);
an inner toothing (11) fixed to a transmission housing wall (2);
at least one first friction element (4) rotationally fixed on the outer toothing (10);
and
at least one second friction element (5) fixed to the inner toothing (11);
the outer toothing (10) and the at least one first friction element (4)
and the inner toothing (11) and the at least one second friction element (5) all being
located within an aperture extending through the transmission housing wall (2);
an actuation element (8) located within the aperture extending through the
transmission housing wall (2) and engaging with one of the at least one friction element
(4) and the at least one second friction element (5), when actuated, to exert an axial
braking pressure against the at least one first friction element (4) and the at least one
second friction element (5); and
an electromagnetic actuation device (6, 7) for actuating the actuation element (8)
and the electromagnetic actuation device (6, 7) being located within a brake
housing (13) and fixed to the transmission housing wall (2) coaxially with the aperture
extending through the transmission housing wall (2)
having one housing (13), at least one first friction element (4) fastened upon an
outer toothing (10) of a transmission shaft (3) to be braked and at least one second
friction element (5), non-rotatably situated relative to the housing (13), upon an inner
tooth (11) in an aperture in a transmission housing (2), the same as one fastening
device by which one actuation element (8), movable by means of an electromagnetic
actuation device, can be axially pressed against the first and second friction elements

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(4, 5), upon the outer toothing (10) of the transmission housing wall (2), one armature (8) is non-rotatably and axially movably disposed as an actuation element.

18. (CURRENTLY AMENDED) The transmission brake according to claim 17, wherein the electromagnetic actuation device (6, 7) comprises:

at least one electromagnetically acting toroidal coil (6, 7) which can be supplied with actuated by a regulated coil current having a regulated pulse width and generated by a toroidal core control current source (18) controlled by via a pulse width, a modulated voltage generated by a control line and a regulation device (16) and one driver stage (18) which can be supplied with a regulated coil current.

19. (CURRENTLY AMENDED) The transmission brake according to claim 17, wherein the at least one electromagnetically actuated toroidal coil (6, 7) comprises:

a plurality of several separate toroidal coils (6, 7) are disposed in the brake housing (13) and arranged circumferentially about the aperture extending through the transmission housing wall (2), forming a circle, in the housing (13) of the transmission brake (1).

20. (CANCELED)

21. (CURRENTLY AMENDED) The transmission brake according to claim 20, wherein the brake housing (13) toroidal coil (6, 7) is situated in a half-shell housing (13) of the transmission brake (1) which by which has an open side is fastened on mating with the transmission housing wall (2).

22. (CURRENTLY AMENDED) The transmission brake according to claim 17, wherein the first friction element (4) is axially movably situated upon moveable on the transmission shaft (3) and the second friction element (5) is axially moveable on the transmission housing (2).

23. (CURRENTLY AMENDED) The transmission brake according to claim 17, wherein the first and second friction elements (4, 5) are designed as brake discs.

24. (CANCELED)

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25. (CURRENTLY AMENDED) The transmission brake according to claim 17, wherein the actuation element ~~armature~~ (8) is designed as a ring armature. ♦♦

26. (CURRENTLY AMENDED) The transmission brake according to claim 17, wherein the first and second friction elements (4, 5) on the transmission housing (2) and on the transmission shaft (3), under the action of the magnetic forces generatable by the toroidal coils (6, 7), can be pressed by the ~~armature~~ actuation element (8) in a direction ~~[[to]]~~ toward a stop face (14) fixed to the transmission brake housing (13) ~~housing in the area of the toroidal coils (6, 7), preferably on the transmission brake housing (13).~~ ♦♦ ♦♦ ♦♦

27. (PREVIOUSLY PRESENTED) The transmission brake according to claim 17, wherein the transmission shaft (3) is a countershaft of one of an automatic or automated mechanical transmission.

28. (CURRENTLY AMENDED) The transmission brake according to claim 17, wherein a ~~control and~~ regulation device (16) controls the toroidal core control current source (18) ~~is designed so that therewith~~ variable brake gradients can be adjusted on the transmission brake (1). ♦♦ ♦♦

29. (CURRENTLY AMENDED) The transmission brake according to claim ~~[[17]]~~ 18, wherein ~~a control and the~~ regulation device (16) ~~is designed~~ controls the toroidal core control current source (18) so that ~~therewith~~ the transmission brake ~~can be operated~~ operates as a vibration damper, ~~preferably as torsional vibration damper,~~ in a drive train. ♦♦ ♦♦ ♦♦

30. (NEW) The transmission brake according to claim 29, wherein the vibration damper is a torsional vibration damper.

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